

WHAT IS CLAIMED IS:

1. A liquid crystal display device comprising:  
a substrate comprising a pixel electrode and a common electrode both being made of a conductive material, the common electrode being a black matrix; and  
a liquid crystal held on the substrate, and driven by an electric field formed between the pixel electrode and the common electrode, the electric field having a component parallel with the substrate.
2. A device according to claim 1, wherein the pixel electrode has a width in a range of 0.1 to 2.0  $\mu\text{m}$ .
3. A device according to claim 1, further comprising a thin-film transistor connected with the pixel electrode and having, as an active layer, a semiconductor layer that is separated into a base region and a floating island region.
4. A liquid crystal display device comprising:  
a substrate comprising:  
a first interlayer insulating film made of an organic resin material or an inorganic material;  
a pixel line and a pixel electrode extending from the pixel line which are formed on the first interlayer insulating film; and  
a second interlayer insulating film and a common electrode, the common electrode being a black matrix;  
a liquid crystal layer held on the substrate, and driven by an electric field formed between the pixel electrode and the common electrode, the electric field having a component parallel with the substrate; and

a storage capacitor formed by at least parts of the pixel line and the black matrix which parts coextend on the first interlayer insulating film with the second interlayer insulating film interposed in between.

5. A device according to claim 4, wherein the pixel electrode has a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

6. A device according to claim 4, wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material, and has a relative dielectric constant larger than that of the first interlayer insulating film.

7. A device according to claim 4, wherein the second interlayer insulating film is made of one or a plurality of materials selected from the group consisting of  $\text{AlN}$ ,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

8. A device according to claim 4, wherein the first interlayer insulating film has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , and wherein the second interlayer insulating film has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ .

9. A device according to claim 4, further comprising a thin-film transistor connected with the pixel electrode and having, as an active layer, a semiconductor layer that is separated into a base region and a floating island region.

10. A device according to claim 4, wherein the first

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interlayer insulating film serves as a planarization film.

11. A liquid crystal display device comprising:

a substrate comprising:

a first interlayer insulating film made of an organic resin material or an inorganic material;

a pixel line and a pixel electrode extending from the pixel line which are formed on the first interlayer insulating film; and

a second interlayer insulating film, a common electrode, and a capacitance-forming electrode, the common electrode being a black matrix;

a liquid crystal layer held on the substrate, and driven by an electric field formed between the pixel electrode and the common electrode, the electric field having a component parallel with the substrate; and

a storage capacitor formed by at least parts of the pixel line and the capacitor-forming electrode which parts coextend on the first interlayer insulating film with the second interlayer insulating film interposed in between.

12. A device according to claim 11, wherein the pixel electrode has a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

13. A device according to claim 11, wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material, and has a relative dielectric constant larger than that of the first interlayer insulating film.

14. A device according to claim 11, wherein the second

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interlayer insulating film is made of one or a plurality of materials selected from the group consisting of AlN, AlN<sub>x</sub>O<sub>y</sub>, Si<sub>3</sub>N<sub>4</sub>, and SiO<sub>x</sub>N<sub>y</sub>.

15. A device according to claim 11, wherein the first interlayer insulating film has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , and wherein the second interlayer insulating film has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ .

16. A device according to claim 11, further comprising a thin-film transistor connected with the pixel electrode and having, as an active layer, a semiconductor layer that is separated into a base region and a floating island region.

17. A device according to claim 11, wherein the first interlayer insulating film serves as a planarization film.

18. A liquid crystal display device comprising:

a first substrate comprising a pixel electrode and a common electrode both being made of a conductive material, the common electrode being a black matrix;

a second substrate opposed to the first substrate; and

a liquid crystal held between the first and second substrates, and driven by an electric field formed between the pixel electrode and the common electrode, the electric field having a component parallel with the substrates.

19. A device according to claim 18, wherein the pixel

electrode has a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

20. A device according to claim 18, further comprising a thin-film transistor connected with the pixel electrode and having, as an active layer, a semiconductor layer that is separated into a base region and a floating island region.

21. A liquid crystal display device comprising:

a first substrate comprising:

a first interlayer insulating film made of an organic resin material or an inorganic material;

a pixel line and a pixel electrode extending from the pixel line which are formed on the first interlayer insulating film; and

a second interlayer insulating film and a common electrode, the common electrode being a black matrix;

a second substrate opposed to the first substrate;

a liquid crystal layer held between the first and second substrates, and driven by an electric field formed between the pixel electrode and the common electrode, the electric field having a component parallel with the substrates; and

a storage capacitor formed by at least parts of the pixel line and the black matrix which parts coextend on the first interlayer insulating film with the second interlayer insulating film interposed in between.

22. A device according to claim 21, wherein the pixel electrode has a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

23. A device according to claim 21, wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material, and has a relative dielectric constant larger than that of the first interlayer insulating film.

24. A device according to claim 21, wherein the second interlayer insulating film is made of one or a plurality of materials selected from the group consisting of AlN,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

25. A device according to claim 21, wherein the first interlayer insulating film has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , and wherein the second interlayer insulating film has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ .

26. A device according to claim 21, further comprising a thin-film transistor connected with the pixel electrode and having, as an active layer, a semiconductor layer that is separated into a base region and a floating island region.

27. A device according to claim 21, wherein the first interlayer insulating film serves as a planarization film.

28. A liquid crystal display device comprising:  
a first substrate comprising:  
a first interlayer insulating film made of an organic resin material or an inorganic material;  
a pixel line and a pixel electrode extending from the pixel line which are formed on the first interlayer

insulating film; and

a second interlayer insulating film, a common electrode, and a capacitance-forming electrode, the common electrode being a black matrix;

a second substrate opposed to the first substrate;

a liquid crystal layer held between the first and second substrates, and driven by an electric field formed between the pixel electrode and the common electrode, the electric field having a component parallel with the substrates; and

a storage capacitor formed by at least parts of the pixel line and the capacitor-forming electrode which parts coextend on the first interlayer insulating film with the second interlayer insulating film interposed in between.

29. A device according to claim 28, wherein the pixel electrode has a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

30. A device according to claim 28, wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material, and has a relative dielectric constant larger than that of the first interlayer insulating film.

31. A device according to claim 28, wherein the second interlayer insulating film is made of one or a plurality of materials selected from the group consisting of AlN,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

32. A device according to claim 28, wherein the first interlayer insulating film has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , and wherein the second interlayer insulating film has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ .

33. A device according to claim 28, further comprising a thin-film transistor connected with the pixel electrode and having, as an active layer, a semiconductor layer that is separated into a base region and a floating island region.

34. A device according to claim 28, wherein the first interlayer insulating film serves as a planarization film.

35. A liquid crystal display device comprising:  
an active matrix substrate comprising:  
gate lines and data lines arranged in matrix form on the same active matrix substrate;  
thin-film transistors formed at respective intersections of the gate lines and the data lines;  
pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines; and  
a common electrode at least partially opposed to each of the pixel electrodes, the common electrode being a black matrix; and  
a liquid crystal layer held on the active matrix substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the active matrix substrate.

36. A device according to claim 35, wherein the pixel electrodes have a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

37. A device according to claim 35, wherein the black matrix serves as a grounding plane with respect to the gate lines, the data lines, and other wiring lines.

38. A device according to claim 35, wherein a semiconductor layer as an active layer of each of the thin-film transistors is separated into a base region and a floating island region.

39. A liquid crystal display device comprising:

an active matrix substrate comprising:

gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines;

a first interlayer insulating film and a second interlayer insulating film formed above the thin-film transistors;

pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines; and

a common electrode at least partially opposed to each of the pixel electrodes, the common electrode being a black matrix;

a liquid crystal layer held on the active matrix substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the active matrix substrate; and

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storage capacitors each formed by at least parts of the pixel line and the black matrix which parts coextend on the first interlayer insulating film with the second interlayer insulating film interposed in between.

40. A device according to claim 39, wherein the pixel electrodes have a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

41. A device according to claim 39, wherein the black matrix serves as a grounding plane with respect to the gate lines, the data lines, and other wiring lines.

42. A device according to claim 39, wherein a semiconductor layer as an active layer of each of the thin-film transistors is separated into a base region and a floating island region.

43. A device according to claim 39, wherein the first interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ , and wherein the second interlayer insulating film has a relative dielectric constant larger than that of the first interlayer insulating film.

44. A device according to claim 39 wherein the second interlayer insulating film is made of one or a plurality of materials selected from the group consisting of AlN,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

45. A device according to claim 39, wherein the first interlayer insulating film serves as a planarization film.

46. A liquid crystal display device comprising:

an active matrix substrate comprising:

gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines;

a first interlayer insulating film and a second interlayer insulating film formed above the thin-film transistors;

pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines;

a common electrode at least partially opposed to each of the pixel electrodes, the common electrode being a black matrix; and

capacitor-forming electrodes formed in a layer different than the pixel lines and the pixel electrodes;

a liquid crystal layer held on the active matrix substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the active matrix substrate; and

storage capacitors each formed by at least parts of the pixel line and the capacitor-forming electrode which parts coextend on the first interlayer insulating film with the second interlayer insulating film interposed in between.

47. A device according to claim 46, wherein the pixel electrodes have a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

48. A device according to claim 46, wherein the black matrix serves as a grounding plane with respect to the gate lines, the data lines, and other wiring lines.

49. A device according to claim 46, wherein a semiconductor layer as an active layer of each of the thin-film transistors is separated into a base region and a floating island region.

50. A device according to claim 46, wherein the first interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ , and wherein the second interlayer insulating film has a relative dielectric constant larger than that of the first interlayer insulating film.

51. A device according to claim 46 wherein the second interlayer insulating film is made of one or a plurality of materials selected from the group consisting of AlN,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

52. A device according to claim 46, wherein the first interlayer insulating film serves as a planarization film.

53. A liquid crystal display device comprising:

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an active matrix substrate comprising:  
gate lines and data lines arranged in matrix  
form on the same active matrix substrate;

thin-film transistors formed at respective  
intersections of the gate lines and the data lines, and each  
having, as an active layer, a crystalline silicon film;

pixel lines connected to the respective thin-  
film transistors and pixel electrodes extending from the  
respective pixel lines; and

a common electrode at least partially opposed to  
each of the pixel electrodes, the common electrode being a  
black matrix; and

a liquid crystal layer held on the active matrix  
substrate, and driven by an electric field formed between each  
of the pixel electrodes and the common electrode, the electric  
field having a component parallel with the active matrix  
substrate.

54. A device according to claim 53, wherein the pixel  
electrodes have a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

55. A device according to claim 53, wherein the black matrix  
serves as a grounding plane with respect to the gate lines,  
the data lines, and other wiring lines.

56. A device according to claim 53, wherein a semiconductor  
layer as an active layer of each of the thin-film transistors  
is separated into a base region and a floating island region.

57. A device according to claim 53, wherein the thin-film  
transistors each having the crystalline silicon film as the

active layer have a field-effect mobility that is not less than 20 cm<sup>2</sup>/V.s in the case of an n-channel type and not less than 10 cm<sup>2</sup>/V.s in the case of a p-channel type.

58. A liquid crystal display device comprising:

an active matrix substrate comprising:

gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines, and each having, as an active layer, a crystalline silicon film;

a first interlayer insulating film and a second interlayer insulating film formed above the thin-film transistors;

pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines; and

a common electrode at least partially opposed to each of the pixel electrodes, the common electrode being a black matrix;

a liquid crystal layer held on the active matrix substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the active matrix substrate; and

storage capacitors each formed by at least parts of the pixel line and the black matrix which parts coextend on the first interlayer insulating film with the second interlayer insulating film interposed in between.

59. A device according to claim 58, wherein the pixel

electrodes have a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

60. A device according to claim 58, wherein the black matrix serves as a grounding plane with respect to the gate lines, the data lines, and other wiring lines.

61. A device according to claim 58, wherein a semiconductor layer as an active layer of each of the thin-film transistors is separated into a base region and a floating island region.

62. A device according to claim 58, wherein the thin-film transistors each having the crystalline silicon film as the active layer have a field-effect mobility that is not less than  $20 \text{ cm}^2/\text{V.s}$  in the case of an n-channel type and not less than  $10 \text{ cm}^2/\text{V.s}$  in the case of a p-channel type.

63. A device according to claim 58, wherein the first interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.1 to  $5.0 \mu\text{m}$ , wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.01 to  $1.0 \mu\text{m}$ , and wherein the second interlayer insulating film has a relative dielectric constant larger than that of the first interlayer insulating film.

64. A device according to claim 58 wherein the second interlayer insulating film is made of one or a plurality of materials selected from the group consisting of AlN,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

65. A device according to claim 58, wherein the first interlayer insulating film serves as a planarization film.

66. A liquid crystal display device comprising:

an active matrix substrate comprising:

gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines, and each having, as an active layer, a crystalline silicon film;

a first interlayer insulating film and a second interlayer insulating film formed above the thin-film transistors;

pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines;

a common electrode at least partially opposed to each of the pixel electrodes, the common electrode being a black matrix; and

capacitor-forming electrodes formed in a layer different than the pixel lines and the pixel electrodes;

a liquid crystal layer held on the active matrix substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the active matrix substrate; and

storage capacitors each formed by at least parts of the pixel line and the capacitor-forming electrode which parts coextend on the first interlayer insulating film with the second interlayer insulating film interposed in between.

67. A device according to claim 66, wherein the pixel electrodes have a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

68. A device according to claim 66, wherein the black matrix serves as a grounding plane with respect to the gate lines, the data lines, and other wiring lines.

69. A device according to claim 66, wherein a semiconductor layer as an active layer of each of the thin-film transistors is separated into a base region and a floating island region.

70. A device according to claim 66, wherein the thin-film transistors each having the crystalline silicon film as the active layer have a field-effect mobility that is not less than  $20 \text{ cm}^2/\text{V.s}$  in the case of an n-channel type and not less than  $10 \text{ cm}^2/\text{V.s}$  in the case of a p-channel type.

71. A device according to claim 66, wherein the first interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ , and wherein the second interlayer insulating film has a relative dielectric constant larger than that of the first interlayer insulating film.

72. A device according to claim 66 wherein the second interlayer insulating film is made of one or a plurality of materials selected from the group consisting of AlN,  $\text{AlN}_x\text{O}_y$ ,

Si<sub>3</sub>N<sub>4</sub>, and SiO<sub>x</sub>N<sub>y</sub>.

73. A device according to claim 66, wherein the first interlayer insulating film serves as a planarization film.

74. A liquid crystal display device comprising:

- an active matrix substrate comprising:
  - gate lines and data lines arranged in matrix form on the same active matrix substrate;
  - thin-film transistors formed at respective intersections of the gate lines and the data lines;
  - pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines; and
  - a common electrode at least partially opposed to each of the pixel electrodes, the common electrode being a black matrix;
- an opposed substrate that is opposed to the active matrix substrate; and
- a liquid crystal layer held between the active matrix substrate and the opposed substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the substrates.

75. A device according to claim 74, wherein the pixel electrodes have a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

76. A device according to claim 74, wherein the black matrix serves as a grounding plane with respect to the gate lines,

the data lines, and other wiring lines.

77. A device according to claim 74, wherein a semiconductor layer as an active layer of each of the thin-film transistors is separated into a base region and a floating island region.

78. A liquid crystal display device comprising:

an active matrix substrate comprising:

gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines;

a first interlayer insulating film and a second interlayer insulating film formed above the thin-film transistors;

pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines; and

a common electrode at least partially opposed to each of the pixel electrodes, the common electrode being a black matrix;

an opposed substrate that is opposed to the active matrix substrate;

a liquid crystal layer held between the active matrix substrate and the opposed substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the substrates; and

storage capacitors each formed by at least parts of the pixel line and the black matrix which parts coextend on the first interlayer insulating film with the second

interlayer insulating film interposed in between.

79. A device according to claim 78, wherein the pixel electrodes have a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

80. A device according to claim 78, wherein the black matrix serves as a grounding plane with respect to the gate lines, the data lines, and other wiring lines.

81. A device according to claim 78, wherein a semiconductor layer as an active layer of each of the thin-film transistors is separated into a base region and a floating island region.

82. A device according to claim 78, wherein the first interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ , and wherein the second interlayer insulating film has a relative dielectric constant larger than that of the first interlayer insulating film.

83. A device according to claim 78 wherein the second interlayer insulating film is made of one or a plurality of materials selected from the group consisting of  $\text{AlN}$ ,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

84. A device according to claim 78, wherein the first interlayer insulating film serves as a planarization film.

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86. A device according to claim 85, wherein the pixel

electrodes have a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

87. A device according to claim 85, wherein the black matrix serves as a grounding plane with respect to the gate lines, the data lines, and other wiring lines.

88. A device according to claim 85, wherein a semiconductor layer as an active layer of each of the thin-film transistors is separated into a base region and a floating island region.

89. A device according to claim 85, wherein the first interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ , and wherein the second interlayer insulating film has a relative dielectric constant larger than that of the first interlayer insulating film.

90. A device according to claim 85 wherein the second interlayer insulating film is made of one or a plurality of materials selected from the group consisting of  $\text{AlN}$ ,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

91. A device according to claim 85, wherein the first interlayer insulating film serves as a planarization film.

92. A liquid crystal display device comprising:  
an active matrix substrate comprising:

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gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines, and each having, as an active layer, a crystalline silicon film;

pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines; and

a common electrode at least partially opposed to each of the pixel electrodes, the common electrode being a black matrix;

an opposed substrate that is opposed to the active matrix substrate; and

a liquid crystal layer held between the active matrix substrate and the opposed substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the substrates.

93. A device according to claim 92, wherein the pixel electrodes have a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

94. A device according to claim 92, wherein the black matrix serves as a grounding plane with respect to the gate lines, the data lines, and other wiring lines.

95. A device according to claim 92, wherein a semiconductor layer as an active layer of each of the thin-film transistors is separated into a base region and a floating island region.

96. A device according to claim 92, wherein the thin-film

transistors each having the crystalline silicon film as the active layer have a field-effect mobility that is not less than 20 cm<sup>2</sup>/V.s in the case of an n-channel type and not less than 10 cm<sup>2</sup>/V.s in the case of a p-channel type.

97. A liquid crystal display device comprising:

an active matrix substrate comprising:

gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines, and each having, as an active layer, a crystalline silicon film;

a first interlayer insulating film and a second interlayer insulating film formed above the thin-film transistors;

pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines; and

a common electrode at least partially opposed to each of the pixel electrodes, the common electrode being a black matrix;

an opposed substrate that is opposed to the active matrix substrate;

a liquid crystal layer held between the active matrix substrate and the opposed substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the substrates; and

storage capacitors each formed by at least parts of the pixel line and the black matrix which parts coextend on the first interlayer insulating film with the second

interlayer insulating film interposed in between.

98. A device according to claim 97, wherein the pixel electrodes have a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

99. A device according to claim 97, wherein the black matrix serves as a grounding plane with respect to the gate lines, the data lines, and other wiring lines.

100. A device according to claim 97, wherein a semiconductor layer as an active layer of each of the thin-film transistors is separated into a base region and a floating island region.

101. A device according to claim 97, wherein the thin-film transistors each having the crystalline silicon film as the active layer have a field-effect mobility that is not less than  $20 \text{ cm}^2/\text{V.s}$  in the case of an n-channel type and not less than  $10 \text{ cm}^2/\text{V.s}$  in the case of a p-channel type.

102. A device according to claim 97, wherein the first interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ , and wherein the second interlayer insulating film has a relative dielectric constant larger than that of the first interlayer insulating film.

103. A device according to claim 97 wherein the second interlayer insulating film is made of one or a plurality of

materials selected from the group consisting of AlN,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

104. A device according to claim 97, wherein the first interlayer insulating film serves as a planarization film.

105. A liquid crystal display device comprising:

an active matrix substrate comprising:

gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines, and each having, as an active layer, a crystalline silicon film;

a first interlayer insulating film and a second interlayer insulating film formed above the thin-film transistors;

pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines;

a common electrode at least partially opposed to each of the pixel electrodes, the common electrode being a black matrix; and

capacitor-forming electrodes formed in a layer different than the pixel lines and the pixel electrodes;

an opposed substrate that is opposed to the active matrix substrate;

a liquid crystal layer held between the active matrix substrate and the opposed substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component

parallel with the substrates; and

storage capacitors each formed by at least parts of the pixel line and the capacitor-forming electrode which parts coextend on the first interlayer insulating film with the second interlayer insulating film interposed in between.

106. A device according to claim 105, wherein the pixel electrodes have a width in a range of 0.1 to 2.0  $\mu\text{m}$ .

107. A device according to claim 105, wherein the black matrix serves as a grounding plane with respect to the gate lines, the data lines, and other wiring lines.

108. A device according to claim 105, wherein a semiconductor layer as an active layer of each of the thin-film transistors is separated into a base region and a floating island region.

109.. A device according to claim 105, wherein the thin-film transistors each having the crystalline silicon film as the active layer have a field-effect mobility that is not less than  $20 \text{ cm}^2/\text{V.s}$  in the case of an n-channel type and not less than  $10 \text{ cm}^2/\text{V.s}$  in the case of a p-channel type.

110. A device according to claim 105, wherein the first interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ , and wherein the second interlayer insulating film has a relative dielectric constant larger than that of the first

interlayer insulating film.

111. A device according to claim 105 wherein the second interlayer insulating film is made of one or a plurality of materials selected from the group consisting of AlN,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

112. A device according to claim 105, wherein the first interlayer insulating film serves as a planarization film.

113. A manufacturing method of a liquid crystal display device comprising:

an active matrix substrate comprising:

gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines, and each having, as an active layer, a crystalline silicon film;

a second interlayer insulating film formed above the thin-film transistors;

pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines; and

a common electrode at least partially opposed to each of the pixel electrodes; and

a liquid crystal layer held on the active matrix substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the active matrix substrate, said manufacturing method comprising the steps of:

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forming a first interlayer insulating film that covers the gate lines and a second interlayer insulating film made of an organic resin material and/or an inorganic material so as to cover the data lines;

forming a black matrix on the second interlayer insulating film;

forming a third interlayer insulating film so as to cover the black matrix;

forming contact holes through the second and third interlayer insulating films; and

forming, on the third interlayer insulating film, pixel lines and pixel electrodes extending from the respective pixel lines,

wherein each of storage capacitors is formed by at least parts of the pixel line and the black matrix which parts coextend on the second interlayer insulating film with the third interlayer insulating film interposed in between.

114. A method according to claim 113, wherein the contact holes forming step comprises the substeps of:

forming openings by portions of the third interlayer insulating film by etching; and

forming openings by removing portions of the second interlayer insulating film which are exposed as bottoms of the openings of the third interlayer insulating film by etching with the third interlayer insulating film used as a mask.

115. A method according to claim 113, wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , wherein the third interlayer

insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ , and wherein the third interlayer insulating film has a relative dielectric constant larger than that of the second interlayer insulating film.

116. A method according to claim 113, wherein the third interlayer insulating film is made of one or a plurality of materials selected from the group consisting of AlN,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

117. A method according to claim 113, wherein the second interlayer insulating film serves as a planarization film.

118. A method according to claim 113, wherein the crystalline silicon film as the active layer of each of the thin-film transistors is separated into a base region and a floating island region.

119. A manufacturing method of a liquid crystal display device comprising:

an active matrix substrate comprising:

gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines, and each having, as an active layer, a crystalline silicon film;

a second interlayer insulating film formed above the thin-film transistors;

pixel lines connected to the respective thin-

film transistors and pixel electrodes extending from the respective pixel lines; and

a common electrode at least partially opposed to each of the pixel electrodes; and

a liquid crystal layer held on the active matrix substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the active matrix substrate, said manufacturing method comprising the steps of:

forming a first interlayer insulating film that covers the gate lines and a second interlayer insulating film made of an organic resin material and/or an inorganic material so as to cover the data lines;

forming contact holes through the second interlayer insulating film;

forming, on the second interlayer insulating film, pixel lines and pixel electrodes extending from the respective pixel lines;

forming a third interlayer insulating film so as to cover the pixel lines and the pixel electrodes; and

forming a black matrix on the third interlayer insulating film,

wherein each of storage capacitors is formed by at least parts of the pixel line and the black matrix which parts coextend on the second interlayer insulating film with the third interlayer insulating film interposed in between.

120. A method according to claim 119, wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , wherein the third interlayer

insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ , and wherein the third interlayer insulating film has a relative dielectric constant larger than that of the second interlayer insulating film.

121. A method according to claim 119, wherein the third interlayer insulating film is made of one or a plurality of materials selected from the group consisting of AlN,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

122. A method according to claim 119, wherein the second interlayer insulating film serves as a planarization film.

123. A method according to claim 119, wherein the crystalline silicon film as the active layer of each of the thin-film transistors is separated into a base region and a floating island region.

124. A manufacturing method of a liquid crystal display device comprising:

an active matrix substrate comprising:

gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines, and each having, as an active layer, a crystalline silicon film;

a second interlayer insulating film formed above the thin-film transistors;

pixel lines connected to the respective thin-

film transistors and pixel electrodes extending from the respective pixel lines; and

a common electrode at least partially opposed to each of the pixel electrodes;

an opposed substrate that is opposed to the active matrix substrate; and

a liquid crystal layer held between the active matrix substrate and the opposed substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the active matrix substrate, said manufacturing method comprising the steps of:

forming a first interlayer insulating film that covers the gate lines and a second interlayer insulating film made of an organic resin material and/or an inorganic material so as to cover the data lines;

forming a black matrix on the second interlayer insulating film;

forming a third interlayer insulating film so as to cover the black matrix;

forming contact holes through the second and third interlayer insulating films; and

forming, on the third interlayer insulating film, pixel lines and pixel electrodes extending from the respective pixel lines,

wherein each of storage capacitors is formed by at least parts of the pixel line and the black matrix which parts coextend on the second interlayer insulating film with the third interlayer insulating film interposed in between.

125. A method according to claim 124, wherein the contact

holes forming step comprises the substeps of:

forming openings by portions of the third interlayer insulating film by etching; and

forming openings by removing portions of the second interlayer insulating film which are exposed as bottoms of the openings of the third interlayer insulating film by etching with the third interlayer insulating film used as a mask.

126. A method according to claim 124, wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , wherein the third interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ , and wherein the third interlayer insulating film has a relative dielectric constant larger than that of the second interlayer insulating film.

127. A method according to claim 124, wherein the third interlayer insulating film is made of one or a plurality of materials selected from the group consisting of AlN,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

128. A method according to claim 124, wherein the second interlayer insulating film serves as a planarization film.

129. A method according to claim 124, wherein the crystalline silicon film as the active layer of each of the thin-film transistors is separated into a base region and a floating island region.

130. A manufacturing method of a liquid crystal display device comprising:

an active matrix substrate comprising:

gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines, and each having, as an active layer, a crystalline silicon film;

a second interlayer insulating film formed above the thin-film transistors;

pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines; and

a common electrode at least partially opposed to each of the pixel electrodes;

an opposed substrate that is opposed to the active matrix substrate; and

a liquid crystal layer held between the active matrix substrate and the opposed substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the active matrix substrate, said manufacturing method comprising the steps of:

forming a first interlayer insulating film that covers the gate lines and a second interlayer insulating film made of an organic resin material and/or an inorganic material so as to cover the data lines;

forming contact holes through the second interlayer insulating film;

forming, on the second interlayer insulating

film, pixel lines and pixel electrodes extending from the respective pixel lines;

forming a third interlayer insulating film so as to cover the pixel lines and the pixel electrodes; and

forming a black matrix on the third interlayer insulating film,

wherein each of storage capacitors is formed by at least parts of the pixel line and the black matrix which parts coextend on the second interlayer insulating film with the third interlayer insulating film interposed in between.

131. A method according to claim 130, wherein the second interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.1 to 5.0  $\mu\text{m}$ , wherein the third interlayer insulating film is made of an organic resin material and/or an inorganic material and has a thickness in a range of 0.01 to 1.0  $\mu\text{m}$ , and wherein the third interlayer insulating film has a relative dielectric constant larger than that of the second interlayer insulating film.

132. A method according to claim 130, wherein the third interlayer insulating film is made of one or a plurality of materials selected from the group consisting of  $\text{AlN}$ ,  $\text{AlN}_x\text{O}_y$ ,  $\text{Si}_3\text{N}_4$ , and  $\text{SiO}_x\text{N}_y$ .

133. A method according to claim 130, wherein the second interlayer insulating film serves as a planarization film.

134. A method according to claim 130, wherein the crystalline

[Redacted]

silicon film as the active layer of each of the thin-film transistors is separated into a base region and a floating island region.

135. A liquid crystal display device comprising:

    a substrate comprising:

        pixel lines and pixel electrodes extending from the respective pixel lines; and

        a common electrode formed in a layer different than the pixel lines and the pixel electrodes with an interlayer insulating film interposed in between, the common electrode being a black matrix; and

        a liquid crystal layer held on the substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the substrate; and

        storage capacitors each formed by at least parts of the pixel line and the black matrix which parts coextend with the interlayer insulating film interposed in between.

136. A liquid crystal display device comprising:

    a substrate comprising:

        pixel lines and pixel electrodes extending from the respective pixel lines;

        capacitor-forming electrodes formed in a layer different than the pixel lines and the pixel electrodes with an interlayer insulating film interposed in between; and

        a common electrode, the common electrode being a black matrix;

        a liquid crystal layer held on the substrate, and driven by an electric field formed between each of the

pixel electrodes and the common electrode, the electric field having a component parallel with the substrate; and

storage capacitors each formed by at least parts of the pixel line and the capacitor-forming electrode which parts coextend with the interlayer insulating film interposed in between.

137. A liquid crystal display device comprising:

an active matrix substrate comprising:

gate lines and data lines arranged in matrix form on the same active matrix substrate;

thin-film transistors formed at respective intersections of the gate lines and the data lines;

pixel lines connected to the respective thin-film transistors and pixel electrodes extending from the respective pixel lines;

a common electrode, the common electrode being a black matrix; and

capacitor-forming electrodes;

a liquid crystal layer held on the active matrix substrate, and driven by an electric field formed between each of the pixel electrodes and the common electrode, the electric field having a component parallel with the active matrix substrate; and

storage capacitors each formed by at least parts of the capacitor-forming electrode and another conductive film which parts coextend with an insulating film interposed in between.

A handwritten mark consisting of a stylized 'A' and 'B' intertwined, with a curved line extending from the bottom of the 'B'.